Late one September, after snow had fallen twice, I made two or three excursions up among the high summits of the Sierra Sangre de Cristo, and was surprised to find a great number of plants in blossom in shaded locations and under rocks where the snow had not melted away early enough in the summer so as to give them a good start. They seemed bound to live their life out even if they did have a hard time of it and it took a longer time than all summer. *Primula Parryi*, frozen in blossom, was growing under cascades among ice-covered rocks. *Aquilegia cærulea* full of flowers, was standing in snow. *Adoxa, Gentiana frigida, Erigeron, Saxifraga* and many others were caught in full bloom by the Alpine winter. During some winters an extraordinary amount of snow falls and drifting among the high peaks, the following summer may not be long enough and warm enough to uncover the plants growing beneath, and they may not even begin to grow that year. After a winter of little snow and small drifts soon melted away by a warm summer, barren ground that may not have seen light upon it for years, is uncovered and an ancient drift has a wide border of flowerless ground.—T. S. Brandegee.

The Distribution of the North American Flora, by Sir J. D. Hooker.—In the *American Naturalist* for March there is a reprint of this lecture delivered by Sir J. D. Hooker last spring before the members of the Royal Institution of Great Britain. It will be remembered that the lecturer visited the United States during the summer of 1877, and in connection with Dr. Gray made a botanical cross-section of the continent, noting particularly the geographical distribution of plants. The regular report of this survey will appear in the forthcoming eleventh report of the U. S. Geol. and Geog. Survey of the Territories, and until that report is ready for distribution we will have to be satisfied with such casual information as the distinguished authors choose to give us.

The lecture begins by stating the fact of the immigration of plants from one continent to another, and then proceeds at once to a consideration of the physical conformation of America and the effect it has had upon the distribution of plants.

In the United States the lecturer observes five well defined meridional belts of vegetation, viz: the great eastern forest region, extending from the Atlantic to beyond the Mississippi; the prairie region; the Rocky Mountain region; the Sink region, remarkable for its display of sage-bush and saline plants; and the Sierra Nevada region with its gigantic coniferous forests. The first region is very closely

allied in its species to Eastern Asia, a fact brought out not only by a similarity in common species or large genera, but in very many cases by peculiar species and genera represented by two species only, one in Eastern America, the other in Eastern Asia. In Western America there is no such resemblance, making a greater difference between the floras of the eastern and western parts of the United States than between Eastern America and Eastern Asia. In the west there is a large commingling of Mexican or Southern species that have crept northward, guided by the mountain ranges. Hence the conclusion is arrived at that the similarity between the species of Eastern America and Eastern Asia is explained by the continuity of the continents to the north in the Cretaceous or Miocene and a consequent commingling of species, and that the Glacial period drove these species southward along the two continents farther even than they appear now. With the retreat of the glacier and the return of a milder climate these plants would creep northward again, but the enormous height of the Rocky Mountain and Sierra Nevada regions would retain the glaciers there long after they had disappeared from the eastern half of the continent. When eventually these alpine glaciers did succumb to a milder climate, the old Asiatico-American species having either established themselves elsewhere or been driven into the sea towards the south, the field would be clear for the advance of the Mexican forms and we find them even up in British America. Hence to state it all in one sentence, our Eastern flora has come from the North and our Western flora from the South.—J. M. C.

Caucalis Antheriscus.—I have found thoroughly naturalized in the woods back of Cincinnati and remote from dwellings, *Caucalis Antheriscus*. The name was kindly furnished by J. W. Congdon. Prof. Watson, to whom I sent a specimen, informs me that the plant was found in 1872 by Judge G. W. Clinton, near Buffalo, N. Y. It is firmly established in this locality and promises, I think, to become a troublesome weed.—C. G. Lloyd.

Note on Panicum littorale, Vasey, by Gen. Wm. Munro.—Panicum littorale, Vasey, is undoubtedly *P. repens*, L.,—one specimen the dwarfish form which he described in the second edition of Sp. Plant. p. 87. It is absolutely identical with specimens which I have before me in DeCandolle's herbarium from Crete and Gibralter, where I have also collected it myself. It is also *P. arenarium*, Brotero.

There has always been considerable confusion about *P. repens*, L. The *P. repens* of Burman, Fl. Ind., p. 26, tab. 11, fig. 1 (1768), where